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OCEANOGRAPHY AND MARINE METEOROLOGY (JCOMM)
SHIP OBSERVATIONS TEAM

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SUPPORT INFRASTRUCTURE

Inmarsat

(Submitted by Mr Brian Mullan, Head of the Maritime and Aeronautical Safety Services, Inmarsat)

Summary and purpose of document

This document provides answers by the INMARSAT to specific questions raised by the Chairperson of the JCOMM Ships Observation Team, Mr Graeme Ball and the Chairperson of the JCOMM Task Team on the VOSClm Project, Ms Sarah North.

ACTION PROPOSED

The Ship Observations Team is invited to:

- (a) Review the information contained in this report and comment, as appropriate;
- (b) Request Inmarsat for clarifications regarding said questions, as necessary and/or as appropriate.

Appendix: A. Resolution MSC.210(81), Performance Standards and Functional Requirements for the Long-range Identification and Tracking of Ships.

DISCUSSION

Inmarsat responses to the questions raised by the Chairperson of the JCOMM Ships Observation Team, Mr Graeme Ball and the Chairperson of the JCOMM Task Team on the VOSclim Project, Ms Sarah North

(For use during the Fourth Session of the JCOMM Ship Observations Team (SOT-IV) to be held in Geneva, Switzerland, 16-21 April 2007).

1.) Ownership of the SAC Code 41 list. How changes to SACs can be promulgated in an organised fashion so that ship observers can be notified in due time (and Admiralty Publications updated).

- Although Inmarsat originally defined the Short Access Codes (SACs) for distress and safety purposes, it is a national matter how and whether any or all of these services are provided by a particular Inmarsat Land Earth Station (LES). Additional codes for general utility may be defined separately by individual LESs. Inmarsat has no influence on what or how such additional codes may be defined or used. It should be noted that additional SACs can be numerical, alphabetical or alphanumeric.

2.) Will the regionalisation/personalisation of SAC41 become more widespread? For example, Australia has, because of the takeover of Xantic by Stratos, needed to introduce SAC1241 as a regional alternative to SAC41 to ensure timely delivery of the VOS reports (BBXX) in this region to Melbourne. What is the long-term future of SAC41?

- Please see 1.) above.
- As the use of SAC 41 is a national matter, the Inmarsat is unable to provide insight on this issue.

3.) Why SAC41, presumably a standard Inmarsat service, is not available at all LESs. Explaining to ships that you can send free of charge to some LES but not to others is not always easy or in fact understood.

- Please see 1.) above. The provision of SACs is a national matter. Recommendations on costs for SAC 41 are set out in IMO Resolution A.707(19) and it is a matter for individual LESs whether or not to charge for this SAC service.

4.) Costs – these appear to vary substantially depending on which Inmarsat provider one goes to, but are comparatively expensive when compared to other satellite systems. This is putting pressure on the SOT operators to find less expensive solutions such as Iridium and Globalstar.

- Please see 3.) above. Users are free to choose which service provider to use and to “shop around” for the best price and service quality.

5.) Alternative SACs - the possibility of switching national VOS fleets to new dedicated three-figure SACs is now appearing. However, how are these new SACs being managed; are Inmarsat suppliers permitted to set them up as they wish or are they be registered centrally somewhere?

- As in 1.) and 2.) above. The individual LESs are free to determine new SACs and are under no obligation to coordinate codes.

6.) It is still a little unclear how many of the Inmarsat providers actually provide a 'global' SAC41 service - we know that Stratos do provide global coverage, and presumably also France Telecom and maybe also Telenor. However, this isn't clear from the current Code 41 list.

- Today, Inmarsat can confirm that Telenor, Stratos/Xantic and France Telecom offer global SAC41 services. However, as indicated above, individual LESs are free to alter their own arrangements. Other LESs also offer SAC41 in a single ocean region.
- Since the SAC list is dynamic, it is not practicable for Inmarsat to offer such a list as always being “current”.

7.) Could Inmarsat encourage the GMDSS Inmarsat equipment suppliers to upgrade their systems to accommodate weather reporting (which is also a SOLAS provision linked to safety) (some systems don't even have a floppy disk or USB connection for transferring the observations)?

- All mobile earth station equipment provides SAC capabilities.
- Some manufacturers provide a second communication port, the use of which can provide the services you refer to here. The provision of a second communication port is not mandatory upon manufacturers. However, Inmarsat will undertake to advise all Inmarsat C manufacturers that there is a clear demand for such a facility.
- Given that the Inmarsat C operating system for the GMDSS terminals is DOS, it is considered impractical to put a USB port on such equipment. However, some non-GMDSS Inmarsat C and mini-C equipment uses Windows-based messaging software. Any PC that would be used for such an application will have its own USB port, although the PC itself would be connected to the Inmarsat C / mini-C via a serial port.

8.) Data Compression - such systems (e.g., DNID) have potential to greatly reduce costs but seem to be easier for some Inmarsat suppliers to set up than others (e.g., appeared difficult with Stratos).

- A DNID (data network identity) is not, of itself, a compression mechanism. However, the DNID data-reporting protocol can be used to initiate transmission of binary-encoded weather data. This is a user-defined service by such as a meteorological service provider who reached agreement with an associated LES to provide this service.

9) Closure of the LES - the closure of Goonhilly LES presented us with major problems with initial data losses and continuing data timeliness problems. From the weather reporting perspective, this closure was poorly handled with no trialing of new data routing systems.

- Rationalisation of LES services is driven by commercial forces.
- Please provide an explanation of "data losses" and "data timeliness problems" above.
- Services through a particular LES is a commercial agreement between the MSI providers/recipients and the LES used. Such commercial agreements normally contain contingency arrangements that provide for alternative routing. We understands that Stratos had such agreements in place.

10) Why, when an LES changes to not accepting SAC41, isn't it the responsibility of the individual provider, or better still Inmarsat, to advise WMO rather than the other way around as is the current practice. Very often we learn about changes after the event - forewarning would provide the opportunity to advise ships in advance of impending changes and thus significantly reduce data loss.

- As already stated, the SAC provision is a national matter and Inmarsat has no influence on national decisions or the timing thereof.

11) Back up facilities - we need to be sure that if an LES like Goonhilly closes (or fails) that there is a back up system so that observations can be re-routed to another supplier if necessary. This is not only pertinent to incoming ship observations but also the outgoing MSI forecasts.

- Please see 9) above, regarding commercial, contingency arrangements

12) LRIT – We understand, but we need some confirmation, that this system may be provided via Inmarsat. If so, is there any potential for its performance standards to be enhanced so that it could also be used for limited weather information reporting?

- LRIT is an IMO-defined service, for which Inmarsat expects to be one of the airtime providers. Use of the LRIT data is outside the scope of the Inmarsat involvement in this service. IMO Resolution MSC.210(81) provides the Performance Standards for ship-borne equipment to be used for LRIT – this is attached to the covering email.
- Any changes to the LRIT Performance Standard would have to be proposed to IMO by national administrations.

APPENDIX A

RESOLUTION MSC. 210(81)

**PERFORMANCE STANDARDS AND FUNCTIONAL REQUIREMENTS FOR THE LONG-RANGE
IDENTIFICATION AND TRACKING OF SHIPS**